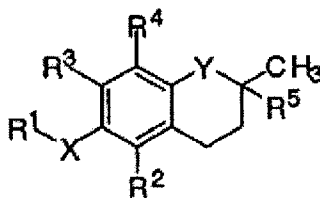


AMENDMENT

1. (Previously presented): A method for inhibiting the growth of tumor cells in an individual comprising administering to the individual a pharmacologically effective dose of a compound having a structural formula



wherein X is oxygen;

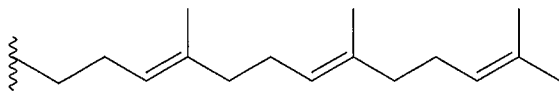
Y is oxygen, NH or NCH₃;

R¹ is -(CH₂)₁₋₅CO₂H, -(CH₂)₇CO₂H, -CH₂CONH₂, -CH₂CO₂CH₃,
-CH₂CON(CH₂CO₂H)₂, -(CH₂)₂OH, -(CH₂)₃NH₃Cl, or -(CH₂)₂OSO₃NHEt₃;

R² and R³ are independently hydrogen or R⁴;

R⁴ is methyl; and

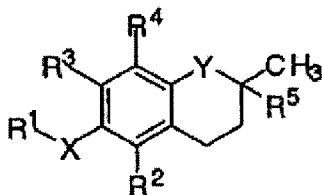
R⁵ is



2. (Previously presented): The method of claim 1, wherein said compound is α -tocotrienol, γ -tocotrienol or δ -tocotrienol.

3. (Original): The method of claim 1, wherein said compound is 2,5,7,8-tetramethyl-2R-(4,8,12-trimethyl-3,7,11 E:Z tridecatrien) chroman-6-yloxy) acetic acid.

4. (Previously presented): The method of claim 1, wherein said compound induces apoptosis, DNA synthesis arrest, cell cycle arrest, or cellular differentiation in cells comprising said tumor.
5. (Previously presented): The method of claim 1, wherein said compound is administered in a dose of about 1 mg/kg to about 60 mg/kg.
6. (Previously presented): The method of claim 5, wherein administration of said composition is oral, topical, liposomal/aerosol, intraocular, intranasal, parenteral, intravenous, intramuscular, or subcutaneous.
7. (Canceled).
8. (Previously presented): The method of claim 1, wherein said tumor cells comprise an ovarian cancer, a cervical cancer, an endometrial cancer, a bladder cancer, a lung cancer, a breast cancer, a testicular cancer, a prostate cancer, a glioma, a fibrosarcoma, a retinoblastoma, a melanoma, a soft tissue sarcoma, an osteosarcoma, a leukemia, a colon cancer, a carcinoma of the kidney, a pancreatic cancer, a basal cell carcinoma, or a squamous cell carcinoma.
- 9-13. (Canceled).
14. (Previously presented): A method of inducing apoptosis of a cell, comprising the step of contacting said cell with a pharmacologically effective dose of a compound having a structural formula



wherein X is oxygen;

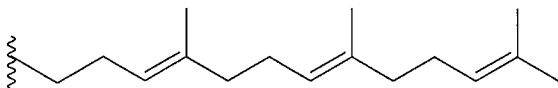
Y is oxygen, NH or NCH₃;

R^1 is $-(CH_2)_{1-5}CO_2H$, $-(CH_2)_7CO_2H$, $-CH_2CONH_2$, $-CH_2CO_2CH_3$,
 $-CH_2CON(CH_2CO_2H)_2$, $-(CH_2)_2OH$, $-(CH_2)_3NH_3Cl$ or $-(CH_2)_2OSO_3NHEt_3$;

R^2 and R^3 are independently hydrogen or R^4 ;

R^4 is methyl; and

R^5 is



15. (Previously presented): The method of claim 14, wherein said compound is α -tocotrienol, γ -tocotrienol or δ -tocotrienol.

16. (Original): The method of claim 14, wherein said compound is 2,5,7,8-tetramethyl-2R-(4,8,12-trimethyl-3,7,11 E:Z tridecatrien) chroman-6-yloxy) acetic acid.

17. (Canceled).

18. (Previously presented): The method of claim 1, wherein R^1 is $-(CH_2)_{1-5}CO_2$ or $-(CH_2)_7CO_2H$.

19. (Previously presented): The method of claim 1, wherein R^1 is $-CH_2CONH_2$.

20. (Previously presented): The method of claim 1, wherein R^1 is $-CH_2CO_2CH_3$.

21. (Previously presented): The method of claim 1, wherein R^1 is $-CH_2CON(CH_2CO_2H)_2$.

22. (Previously presented): The method of claim 1, wherein R^1 is $-(CH_2)_2OH$.

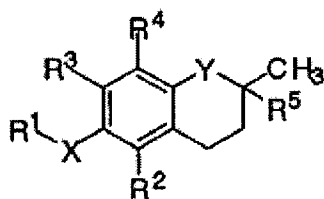
23. (Previously presented): The method of claim 1, wherein R^1 is $-(CH_2)_3NH_3Cl$.

24. (Previously presented): The method of claim 1, wherein R^1 is $-(CH_2)_2OSO_3NHEt_3$.

25-33. (Canceled)

34. (Previously presented): The method of claim 1, wherein R^2 is hydrogen.
35. (Previously presented): The method of claim 1, wherein R^2 is methyl.
36. (Previously presented): The method of claim 1, wherein R^3 is hydrogen.
37. (Previously presented): The method of claim 1, wherein R^3 is methyl.
38. (Previously presented): The method of claim 1, wherein R^4 is methyl.
39. (Canceled)
40. (Previously presented): The method of claim 1, wherein Y is NCH_3 .
41. (Previously presented): The method of claim 1, wherein Y is NH.
42. (Previously presented): The method of claim 14, wherein R^1 is $-(CH_2)_{1-5}CO_2$ or $-(CH_2)_7CO_2H$.
43. (Previously presented): The method of claim 14, wherein R^1 is $-CH_2CONH_2$.
44. (Previously presented): The method of claim 14, wherein R^1 is $-CH_2CO_2CH_3$.
45. (Previously presented): The method of claim 14, wherein R^1 is $-CH_2CON(CH_2CO_2H)_2$.
46. (Previously presented): The method of claim 14, wherein R^1 is $-(CH_2)_2OH$.
47. (Previously presented): The method of claim 14, wherein R^1 is $-(CH_2)_3NH_3Cl$.
48. (Previously presented): The method of claim 14, wherein R^1 is $-(CH_2)_2OSO_3NHEt_3$.
- 49-57. (Canceled)
58. (Previously presented): The method of claim 14, wherein R^2 is hydrogen.
59. (Previously presented): The method of claim 14, wherein R^2 is methyl.
60. (Previously presented): The method of claim 14, wherein R^3 is hydrogen.

61. (Previously presented): The method of claim 14, wherein R^3 is methyl.
62. (Previously presented): The method of claim 14, wherein R^4 is methyl.
63. (Canceled)
64. (Previously presented): The method of claim 14, wherein Y is NCH_3 .
65. (Previously presented): The method of claim 14, wherein Y is NH.
66. (Previously presented): The method of claim 1, wherein the compound has the structural formula



wherein X is oxygen;

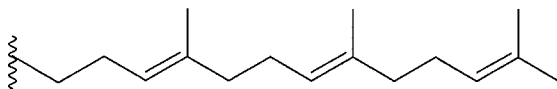
Y is oxygen, NH or NCH_3 ;

R^1 is $-(CH_2)_{1-3}CO_2H$, $-CH_2CON(CH_2CO_2H)_2$, $-(CH_2)_3NH_3Cl$, or $-(CH_2)_2OSO_3NHEt_3$;

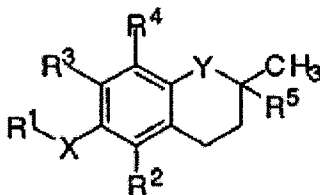
R^2 and R^3 are independently hydrogen or R^4 ;

R^4 is methyl; and

R^5 is



67. (Previously presented): The method of claim 14, wherein the compound has the structural formula



wherein X is oxygen;

Y is oxygen, NH or NCH₃;

R¹ is $-(\text{CH}_2)_{1-3}\text{CO}_2\text{H}$, $-\text{CH}_2\text{CON}(\text{CH}_2\text{CO}_2\text{H})_2$, $-(\text{CH}_2)_3\text{NH}_3\text{Cl}$, or $-(\text{CH}_2)_2\text{OSO}_3\text{NHEt}_3$;

R² and R³ are independently hydrogen or R⁴;

R⁴ is methyl; and

R⁵ is

